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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,223	02/25/2004	Johannes P.H. Oyen	0142-0447P	1529
2292	7590	12/29/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			LEBRON, JANNELLE M	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

4A

Office Action Summary	Application No. 10/785,223	Applicant(s) OYEN, JOHANNES P.H.	
	Examiner Jannelle M. Lebron	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 9 and 14 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 7, 8 and 10-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>02/26/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 6, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Couwenhoven et al. (US Patent 6,354,689).

- **Claim 1:**

Couwenhoven et al. discloses a printing method using a printhead (80 in figure 3) containing a plurality of print units, each being capable of printing a pixel line when the printhead is scanned over a recording medium (column 5, lines 25-31), wherein the printing method is controlled to compensate for a failure of a print unit (column 3, lines 50-54; column 6, lines 40-43), which comprises

storing a plurality of failure compensation strategies (column 8, lines 25-28),

dividing an image to be printed into segments containing different types of image information (column 5, lines 9-16), and

selecting different ones of the stored compensation strategies for printing different segments of the image (column 8, lines 3-6, 12-39).

- **Claim 2:**

Couwenhoven et al. discloses a printing method wherein the segments extend over the whole width of the image to be printed (column 5, lines 48-50; as shown in figure 2).

- **Claim 3:**

Couwenhoven et al. discloses a printing method wherein the dimension of the segments in a direction normal to the scanning direction of the printhead is adapted to the length of an array of print units of the printhead (as shown in figure 8).

- **Claim 6:**

Couwenhoven et al. discloses a printing method comprising a step of automatically detecting the failure of the print unit and automatically activating or adapting a failure compensation strategy in accordance with the detected failure (column 7, lines 28-33).

- **Claim 14:**

Couwenhoven et al. discloses a printer comprising a transport system for a recording medium, a printhead (80 in figure 3) containing a plurality of print units each of which being capable of printing a pixel line when the printhead is scanned over the recording medium (column 5, lines 25-31), and a failure compensation unit for controlling the print operation such that a failure of a print unit is compensated (column 3, lines 50-54; column 6, lines 40-43), wherein a segmentation unit is provided for dividing an image to be printed into segments containing different types of image information (column 5, lines 9-16), and wherein the failure compensation unit comprises

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a memory for storing a plurality of compensation strategies and a controller for selecting one of said compensation strategies in accordance with the segment to be printed (column 8, lines 3-6, 12-39).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Couwenhoven et al. in view of Koitabashi et al. (US Patent 6,908,176).

- **Claim 9:**

Couwenhoven et al. teaches the claimed limitations as set forth above except "wherein the step of dividing the image into segments includes a step of extracting a primary image classifier from each area of the image, said primary image classifier being a measure for the brightness of that area, and determining the segments on the basis of the values of the primary image classifiers of the image areas contained therein."

Koitabashi et al. discloses a recording apparatus that compensates for nozzles that have failed to properly eject ink (column 6, lines 3-6) using a method that creates output data for a compensatory nozzle "so that the brightness of the portion of the image, which will be recorded by the compensatory nozzle will match the brightness of the portion of the image, which could have been formed by the designated nozzle based on the original output data if it were not for the ejection failure."

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a method that compensates for failing nozzles that divides an image in different areas based on the brightness of each. One would have been motivated to modify Couwenhoven et al. to make the compensation step more efficient thus improving print quality as taught by Koitabashi et al.

Allowable Subject Matter

6. Claims 4, 5, 7, 8, and 10-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

- **Claim 4:**

Prior art does not disclose or suggest either alone or combined the claimed "assigning to each segment a criterion specifying a minimum requirement for image quality, and selecting, for a segment to be printed, the first strategy in the sequence that fulfills the criterion assigned to that segment."

- **Claim 7:**

Prior art does not disclose or suggest either alone or combined the claimed "searching the image to be printed for nozzle failure sensitive items, and proactively applying a compensation strategy in accordance with the search result."

- **Claim 8:**

Prior art does not disclose or suggest either alone or combined the claimed "wherein the failure compensation strategies comprise at least one strategy that is applicable in a single-pass mode of the printhead and at least one strategy that is applicable in a multi-pass mode of the printhead."

- **Claim 10:**

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Prior art does not disclose or suggest either alone or combined the claimed "which comprises context filtering the primary classifiers of the image areas and determining the segments on the basis of the filtered classifiers."

- **Claim 12:**

Prior art does not disclose or suggest either alone or combined the claimed "wherein at least one threshold value is defined for each failure compensation strategy, and the failure compensation strategy for a segment is selected by comparing the smallest primary image classifier that has been found for the segment, to said threshold values."

7. Claims 5, 11, and 13 are considered allowable subject matter since they depend on allowable claims.

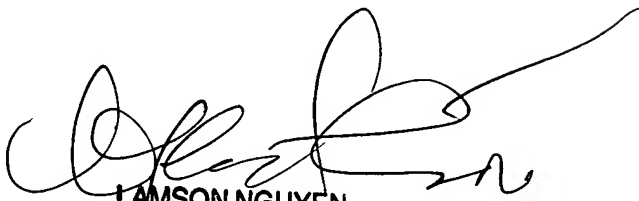
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jannelle M. Lebron whose telephone number is (571) 272-2729. The examiner can normally be reached on Monday thru Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (571) 272-1934. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JML
12/21/2005


LAMSON NGUYEN
PRIMARY EXAMINER
12/26/05